

ABSTRACT

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The present invention includes a method for producing high-alumina bodies with superior chemical properties at reduced sintering temperatures. One form of the method includes the steps of providing an alumina powder precursor, adding about 4 weight percent magnesia powder precursor, homogenizing the resultant green powder precursor, pressing a green body from the green powder precursor, removing residual moisture and organic material from the green body, and firing the green body to about cone 13.

The resulting high-alumina body is substantially non-vitreous, has a substantially uniformly sized grain structure, is very resistant to dissolution in molten aluminum, and has superior resistance to chemical attack over substantially the entire pH range.

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